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October 22, 1999

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Ex Parte

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

Re: Deployment of Wireline Services Offering Advanced Services Capability – CC Docket No. 98-147

Dear Ms. Salas:

The attached letter and document is being delivered today to Carol Mattey, Chief – Policy and Program Planning Division, regarding the above captioned proceeding.

Please enter this material into the record as appropriate. Should you have any questions please do not hesitate to contact me.

Sincerely,

Attachment

Cc: C. Mattey

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List ABCDE

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Ms. Carol Mattey
Chief – Policy and Program Planning Division
Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

Re: Deployment of Wireline Services Offering Advanced Services Capability – CC Docket No. 98-147

Dear Ms. Mattey:

Attached is Bell Atlantic's response to the Dennis J. Austin statement submitted to the Commission on September 30, 1999. The Austin statement, submitted on behalf of several Competitive Local Exchange Carriers (CLECs), provided a speculative view of the potential impacts on Incumbent Local Exchange Carrier (ILEC) operations support systems to implement line sharing.

As the attached white paper demonstrates, the Austin statement is based on several false assumptions. In particular, a bulk of the analysis is based on the erroneous premise that operational modifications made by ILECs for the provision of UNEs, resale and their own retail and wholesale ADSL services are sufficient to accommodate line sharing. That is simply not true. Line sharing will in fact require significant and detailed modifications to operational support systems.

Based on our analysis, we estimate an implementation timeframe of 9-12 months at a cost in the $5-25 million dollar range. Given the complexities and projected cost of such an effort, Bell Atlantic recommends the formation of an industry forum to identify and evaluate the technical, operational and service quality issues associated with line sharing. The result of such an industry effort would be an accurate assessment of the network and consumer care requirements ensuring a reasoned and desirable resolution of this issue.

Should you have any questions, please do not hesitate to contact me.

Sincerely,

Attachment

Bell Atlantic's Response to Statement of Dr. Dennis J. Austin Regarding Incumbent Carrier Implementation of Line Sharing

This paper is in response to the September 30, 1999 statement of Dr. Dennis J. Austin submitted by several competitive digital subscriber line service carriers addressing the operational issues related to the implementation of two-carrier line sharing. ("*Austin Statement*" or "*Statement*") The *Statement's* conclusion that incumbent carriers need make only minimal operational modifications that can be implemented within several weeks or months to accommodate line sharing is based on false assumptions, inaccurate information and a serious misunderstanding of the current functionality of incumbent carriers' operational support systems ("OSSs").

All of the conclusions in the *Austin Statement* appear to rest on the erroneous premise that those operational modifications made by incumbents for the provision of unbundled network elements ("UNEs"), resale and for their own ADSL services are largely sufficient to accommodate two carrier line sharing. But the simple fact is that the provision of dual services on a loop by two carriers is vastly different from any other service arrangement Bell Atlantic currently provide. Without significant modification, neither the OSS capabilities supporting the provision of UNEs/resale nor those supporting Bell Atlantic's ADSL offerings are capable of providing line sharing as currently proposed. Because the required OSS capabilities do not exist, the near immediate implementation proposed by the *Austin Statement* is simply not possible.

I. The Operational Framework Supporting Bell Atlantic's Own ADSL Offering Is Incapable of Accommodating Two Carrier Line Sharing Without Substantial Modifications.

In the case of its own ADSL offerings, Bell Atlantic, as the only carrier providing end user network services over the loop, is solely responsible for the provisioning, maintenance and repair of those services and the network components used to deliver them. The *Austin Statement* is wrong that Bell Atlantic's OSSs must be able to track and otherwise accommodate two service providers sharing a loop simply because it is offering a wholesale ADSL service to ISPs. As shown in *Attachment A*, the network and service configuration of Bell Atlantic's wholesale ADSL service and two carrier line sharing is quite different. Consequently, each service requires different OSS capabilities.

In the case of Bell Atlantic's wholesale ADSL service, it is still Bell Atlantic that is providing the ADSL service on the line. It merely provides that service to ISPs for resale. The OSS functionality that identifies ISPs for service order and billing purposes under Bell Atlantic's wholesale offering is insufficient for tracking competitive carriers throughout the relevant Bell Atlantic legacy systems for line sharing purposes because the ISPs -- unlike competitive carriers sharing a line -- are not provisioning the ADSL service. In a two carrier line sharing arrangement, systems will need to be reconfigured, for example, to recognize that the competitive carrier owns certain network equipment such as the DSLAM and to inventory and assign new splitters in the central office. These functions are not required to provision Bell Atlantic's retail and wholesale ADSL offerings.

II. The Operational Framework Supporting Bell Atlantic's UNE and Resale Offerings Is Incapable of Accommodating Two Carrier Line Sharing Without Substantial System Modifications.

The *Austin Statement* is also confused about the fundamental structure of the UNE provisioning process. Bell Atlantic's UNE and resale offerings utilize different OSS capabilities than those used for retail service offerings. However, because two carrier line sharing involves the simultaneous delivery by Bell Atlantic of a "retail" service (i.e. POTs) to an end user *and* a "wholesale" product (*i.e.* the unbundled spectrum) to a competitive carrier over the same physical loop, Bell Atlantic's OSSs will need to be modified.

Over the last several years, Bell Atlantic has modified and enhanced its OSSs to accommodate UNEs and resale. However, these modifications and enhancements were based on the underlying assumption that when an end user decides to switch its Bell Atlantic voice service to a competitive carrier, the end user's Bell Atlantic retail service would essentially be terminated in Bell Atlantic's record keeping system. This is because the competitive carrier now becomes Bell Atlantic's customer and the end user becomes the customer of the competitive carrier. Two carrier line sharing is inconsistent with this concept because it will require new functionality to create a process to create a service record for the competitive carrier customer on the wholesale side of the business while simultaneously maintaining the end user service record on the retail side. Consequently, many of the *Austin Statement's* assumptions about the usefulness of UNE-related OSSs functionality in a two carrier line sharing environment are not workable.[1]

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[1] For example, contrary to the *Austin Statement's* claims, Bell Atlantic can not use Loop Facilities and Assignment Control System ("LFACs") Digitally Added Main Lines ("DAML") capabilities to inventory and assign multiple services in a two carrier line sharing environment by simply assigning codes and conducting employee training. The

Thus, in contrast to Bell Atlantic's ADSL offerings and their UNE and resale products, two carrier line sharing involves two carriers sharing ownership and responsibility for the underlying network components and services on a single loop. Preordering/ordering, provisioning, repair, and billing processes and OSSs will need to be reviewed and modified to accommodate this new service offering. A high level overview of what activities will need to be required to accommodate two carrier line sharing is contained in *Attachment B.*[2]

III. Manual Workarounds, As Proposed In The *Austin Statement,* Are Inadequate to Provision Line Sharing.

The recommendations in the *Austin Statement* rely heavily upon manual workarounds to implement two carrier line sharing.[3] Manual workaround processes will not work for a number of reasons.

First, the *Austin Statement* incorrectly assumes that incumbents have the option of using various manual workarounds to accomplish two carrier line sharing absent *any*

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existing LFACs DAML capability can not be used because DAML creates two voice channels and is provisioned and inventoried through the normal POTs flow. It also lacks the capability to inventory a splitter which would be required for two carrier line sharing.

[2] The activities listed in Attachment B are based upon Bell Atlantic's current understanding of the proposed line sharing service, are very preliminary and are only meant to provide a very high-level understanding of the kinds of activities that will be required for line sharing.

[3] For example, the *Statement* contends that as an interim measure incumbents could implement a manual ordering solution making use of faxed paper forms. *See Austin Statement* at 17. It is interesting that competitive carriers after repeatedly advocating the need for mechanized interfaces and incumbent flow-through processing in other contexts, now advocate the use of manual workarounds and paper records for large scale service deployment.

legacy system upgrades. As discussed above, this is simply not the case. [4] Second, even if the OSS capabilities did exist, incumbent and competitive carrier obligations regarding line sharing must first be provided by the Commission. This would be followed by development of the service definition and a design phase where issues involving the splitter configuration and the cooperative incumbent/competitive carrier provisioning, maintenance and repair processes specific to line sharing would be addressed. Given the potential impact on consumers, it is critical that these new incumbent/competitive carrier cooperative processes be carefully addressed as they may negatively impact service quality if not properly designed and implemented.[5] Even if Bell Atlantic had already completed the electronic enhancements necessary to support manual workarounds, it is unthinkable that these workarounds could be widely implemented in 2-4 weeks. For example, the *Austin Statement* notes the need for new Uniform Service Order Codes ("USOCs") and service codes. *See Austin Statement* at 16. However, the industry approval process to establish new service codes typically takes months instead of weeks

Additionally, the *Austin Statement's* time line fails to account for the time necessary to engineer and pre-deploy splitters in hundreds of central offices. Putting aside the time it would take to first devise the industry standard and other definitional requirements for a splitter, the lead time to procure, install, and inventory splitters in the

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[4] *See Attachment C* for an issue by issue response to the *Austin Statement's* proposals.

[5] Procedures will also need to be developed to deal with incumbent carriers' voice customers who obtain their data service from a competitive carrier through line sharing and wish to switch their voice service to another competitive voice carrier who may or may not offer data service.

necessary assignment systems would take months.[6] Such deployment of splitters, however, would be a necessary and important task to complete before a two carrier line sharing service could be introduced. In short, the *Austin Statement's* reliance on wide-scale manual work arounds as an interim measure is impractical, and in any event, would take far longer than 2-4 weeks to implement.[7]

VI. Conclusion.

As demonstrated above, Bell Atlantic will need to expend significant time and resources to substantially upgrade their OSS systems and devise new methods and procedures to create the necessary functionality to introduce two carrier line sharing. Bell Atlantic estimates that the necessary OSS modifications will take at least 9-12 months, and, including the work performed by outside vendors, will cost anywhere from

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[6] For example, splitter definitional requirements would need to address: ownership, type/specification, compatibility with CLEC/ILEC equipment, placement within and connection to the network, access points for testing for data and voice.

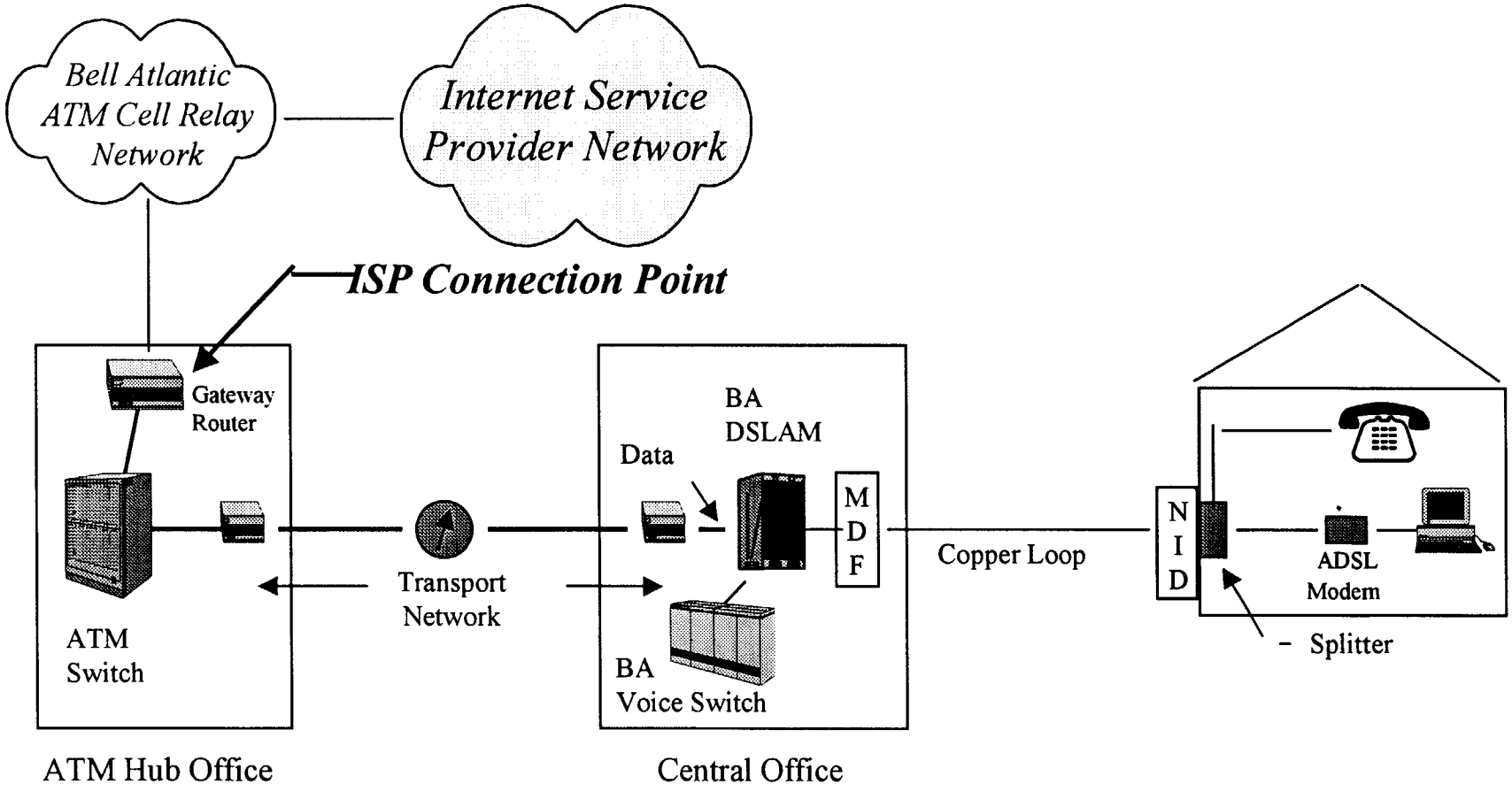
[7] The *Austin Statement* also makes several inaccurate statements that bear correction. First, it states that a recent upgrade to Bell Atlantic's LFACS OSSs creates the type of functionality required for line sharing. This is not true. Notwithstanding Bell Atlantic's recent upgrade, LAFACs would need further enhancements to accommodate line sharing because it still lacks the capability to establish an assignment for the required splitter and to preserve the existing voice service. Second, in support of its unrealistic implementation time frame, the *Austin Statement* points to Bell Atlantic-Massachusetts' Stuart Miller's statement that the Web Graphical User Interface system was initially available in October 1996 for resale services and January 1997 for the provisioning of UNEs. *See Austin Statement* at 41. From this statement, the *Austin Statement* incorrectly concluded that it took Bell Atlantic only 3 weeks to 4 months to create the Web GUI because the development of this system could not occurred prior to the August of 1996 release of the Commission's *Local Competition Order*.[7] Here again, the *Austin Statement* is uninformed. The development of the Web GUI was not directly related to the *Local Competition Order*. Rather, Bell Atlantic began designing this system at least six months before the *Local Competition Order* in an effort to mechanize service request processing for state tariffed voice grade loops.

$5-$25 million dollars.[8] Given the projected costs and the anticipated technical and service quality issues involved with line sharing, Bell Atlantic recommends that, prior to requiring line sharing, the Commission should commission the formation of an industry forum to identify and evaluate the technical, operational and service quality issues associated with line sharing. In this way, the Commission would be able to gather valuable information about the impacts of line sharing prior to actual implementation. Bell Atlantic is especially concerned with the consumer impacting service quality issues associated with two carriers providing overlapping services on the same loop to the same end-user customer.

[8] This is a very rough estimate that will depend upon the parameters the Commission imposes on line sharing, service definition, and vendor costs.

Attachment A

Bell Atlantic
Volume/Term ISP Arrangement

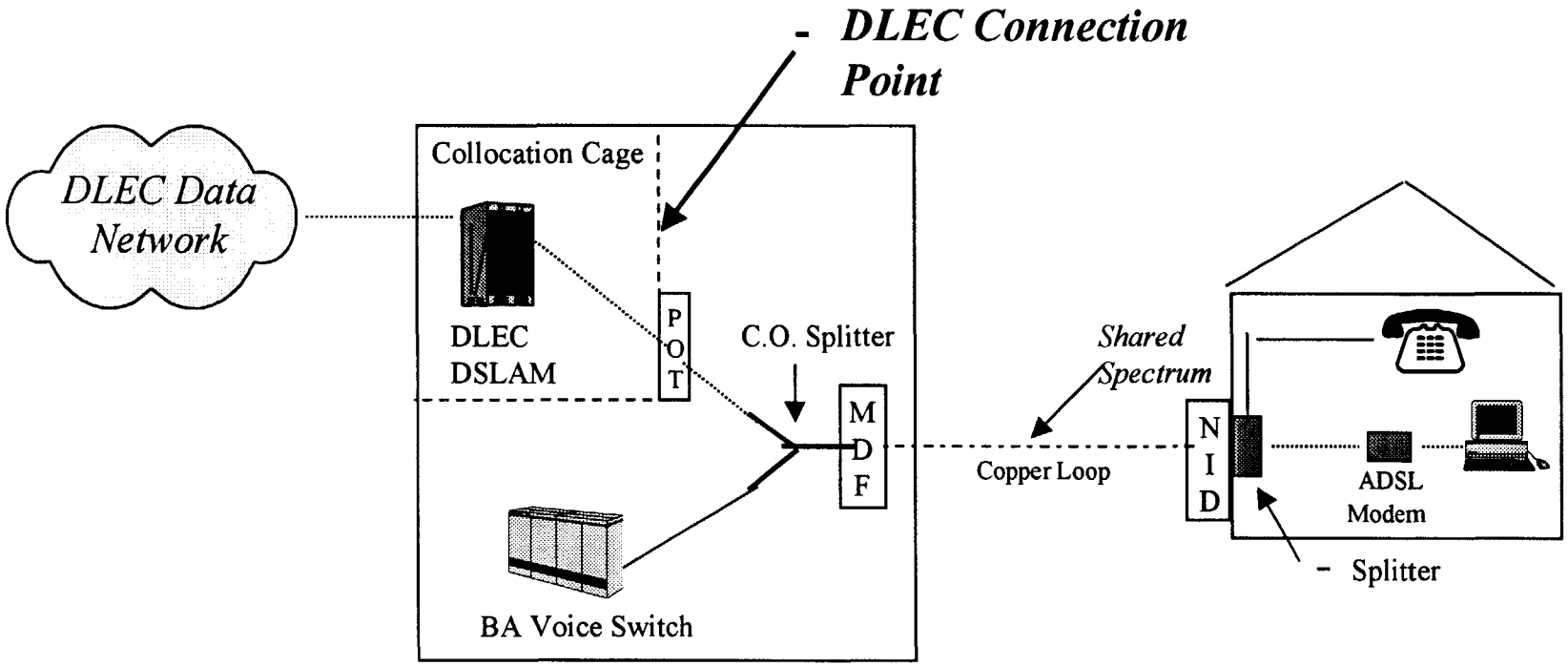


NID - Network Interface Device

MDF - Main Distribution Frame

Attachment A

Bell Atlantic Line Sharing Arrangement



NID - Network Interface Device
MDF - Main Distribution Frame
POT - Point of Termination

Attachment A

Comparison of Volume/Term ISP Arrangement and Line Sharing

	Volume/Term ISP Arrangement	**Line Sharing**
Architecture	BA provides DSLAM, interoffice transport, ATM switching & aggregation	DLEC provides DSLAM in collocation space of serving office
Connection Point	ISP connects to BA at Gateway Router (ATM Network)	DLEC accesses physical loop at serving office
Services	ISP provides services to end customer over BA's ADSL infrastructure	DLEC can offer variety of xDSL services within assigned spectrum
Splitter	C.O. splitter located in BA DSLAM	External splitter near MDF
OSS Impact	*LOW* - BA maintains control of the loop and generates aggregate billing to ISP	*HIGH* – BA must modify OSSs to inventory/assign DLEC spectrum and external splitters
Provisioning	BA provisions DSL service from the NID to ISP connection	DLEC provisions data services from the NID to Collocation Cage
Maintenance & Testing	BA responsible for testing & trouble isolation of all network facilities that impact ADSL service	DLEC is responsible for data testing and trouble isolation/referral to BA's network

Attachment B

High Level Summary Of Steps Bell Atlantic Must Take to Accomodate Two Carrier Line Sharing

Define Service Offering

- Identify and address all aspects of service offering

Pre-Order/Order Processing

- Establish Pre-Order Query Capability For Line Sharing: Splitter Assignment/ Availability, Service Compatibility, And Accounts/Services Relationships. [LiveWire]
- Define Business Rules For Ordering Line Sharing And Pairing With BA Voice Service.
- Modify CLEC Facing Processes To Accept Line Sharing LSRs. [GUI/EDI]
- Using Telecordia Industry Process Establish/Assign New USOCs, FIDs, Service Codes To Distinguish Line Sharing From BA ADSL Service.
- Modify Service Order Systems For Line Sharing To Appropriately Feed Downstream Legacy Systems: Splitter Assignment/Wiring, Circuit Management, Billing, etc. [SOP, SOAC]
- Modify Account Management Systems To Accommodate Line Sharing And Pair With Voice and Line Sharing Service. [CRIS]

Provisioning

- Inventory And Assign Splitters and MDF Cross Connections. [Switch, LFACs]
- Establish Line Sharing Circuit And Maintain Voice Circuit On Same Loop.
- Work Force And Repair Processes Need To:
    - Distinguish Between BA's ADSL Service And Line Sharing
    - Accommodate Two Records On The Same Facility [WFA, LMOS]

Repair

- Accommodate Two Records On The Same Facility In Trouble Report System. [LMOS]
- Establish Testing Procedures To Accommodate Line Sharing. (LMOS/MLT)
- Develop Customer Care Procedures And Testing Procedures To Accommodate Line Sharing.

Billing

- Establish Capability To Bill End User And CLEC

Austin Proposed Approach	Austin Work-Around Effort /Timeline	Austin Formalization Effort/Timeline
Austin ILEC Concern # 1: **"No Way To Order Loop"** Assign codes (which does not involve OBF), use new paper form and manual fax procedures established for UNEs until OBF standardizes across ILECs. Then update GUI, EDI and fully implement.	Incremental rather than major new development. 1 to 2 weeks to modify forms and/or develop manual procedures.	Present to OBF; Update Web GUI in 3 months; Update EDI standard in 6 months; Fully implement EDI is less than 12 months.
Bell Atlantic Response Agree that ordering/pre-ordering processes, forms and electronic interfaces need to be further developed. Manual workaround simply not feasible. In any case, ordering modifications would need to be made in sync with Line Sharing Service development effort which will take about 9 months.		
Austin ILEC Concern # 2: **" No Way To Provision Two Services On One Loop"** Train employees on applicability of existing ADSL inventory and assignment capabilities Line Sharing; assign new equipment codes if required, using existing process.	Immediate implementation with 1 to 2 weeks to train staff on use of existing process for CLEC-ILEC Line Sharing	Nothing Required
Bell Atlantic Response Existing assignment systems (LFACS/SWITCH) cannot accommodate line sharing without enhancement to establish a Meet Point (CFA-like for splitter assignment and associated terminations) and leave voice line intact. Austin is incorrect that BA's LFACS enhancements can readily be accommodated for line sharing by simply assigning codes and employee training. Assigning codes in itself is an industry based process which may take several months. DAML technology cannot be used for line sharing without modification primarily because: (a) the DAML cannot be used to assign a digital loop, (b) the DAML creates two voice channels and is provisioned and inventoried through the normal POTS flow; and (c) there is no splitter involved with the DAML and no capability to pre-qualify facilities. Note: Austin states on page 36 that ILEC ADSL orders do not flow through. This is not true. BA ADSL orders can flow though BA's provisioning OSS.		
Austin ILEC Concern # 3 : **"No Way To Track Two Addresses, Customers, and Service Providers On One Loop"** Address is same. Customer and service provider can be tracked and cross-referenced.	Immediately available by building on Work-Arounds in #1 and #2 above so requires 2 to 4 weeks cumulatively.	Small-may need to add field to house CLEC ID and new ID; driven by ILEC needs
Bell Atlantic Response Without enhancement, as outlined in 1 and 2 above, BA provisioning systems cannot accommodate the additional points of termination that will be required for line sharing, to manage the splitter, and to leave the existing voice service intact. Currently, there is no way to assign a telephone number and a circuit number on one loop. The retail services that are currently in service, such as, ADSL, appear in the provisioning and assignment systems as one record in telephone number format. There is no provision to treat these single records as two records for provisioning or billing. System enhancements and new USOCs/FIDS would be required to facilitate the tying of the required voice and line sharing records together. Also, processes need to be developed to handle "pairing" issues, such as, what are the procedures and how are the appropriate OSSs updated when the BA voice service is terminated.		

Austin Proposed Approach	Austin Work-Around Effort /Timeline	Austin Formalization Effort/Timeline
Austin ILEC Concern # 4 **"No Way To Notify Both CLEC And POTS Customer of Problem On Loop"** Approaches detailed for issues 1, 2, 3 will support tracking customer info for reference	Immediate Work-Around available from activities 1 through 3- so within 2 to 4 weeks cumulatively for ILEC training	See 1, 2 and 3 above
Bell Atlantic Response Approach for issues 1, 2 and 3 as proposed by Austin have nothing to do with the issue of notifying CLEC and POTS customers during maintenance and repair. Trouble report tracking OSSs and cooperative CLEC/ILEC M&Ps will need to be developed/modified to recognize that the loop for BA voice customer has line sharing applications and will require special handling for maintenance and repair.		
Austin ILEC Concern # 5 **"No Way To Perform Routine Automated Testing Without Disrupting Other Service"** Notify customer of possible service disruption during testing; Provide physical testing access once splitter in place that is usable by CLEC OSS in one of ways suggested.	Immediate Work-Around since customer can be notified at time of shared sale.	OSS effort is low, process and procedures effort is medium once splitter available.
Bell Atlantic Response Part of development process addressed by #4. Splitter location, termination points, and CLEC testing access arrangements need to be identified as part of service definition. It is absolutely essential not to put the burden of repair coordination on the customer.		
Austin ILEC Concern # 6 **"Shared Loops Will Create twice the number of trouble tickets"** May be fewer tickets so not so clear if ILEC supposition is true. If so, existing ILEC OSS have ability to correlate duplicate related trouble tickets.	Nothing Required	Little or no impact.
Bell Atlantic Response Volume of trouble tickets not an issue. Currently no capability to track a circuit trouble ticket with a voice trouble ticket in trouble report systems. CLEC will be responsible for the line sharing testing and ILEC for the voice. Need to develop such a correlation.		

Austin Proposed Approach	Austin Work-Around Effort /Timeline	Austin Formalization Effort/Timeline
Austin ILEC Concern # 7 **"Shared Loops Will Present Repair And Maintenance Problems"** New scenarios are similar to elements of other existing scenarios. Collaboratively revise existing processes and procedures.	Immediate collaborative revision as soon as logistics permit. No pre-requisites	Primarily a process and procedure issue, not an OSS functionality issue
Bell Atlantic Response Because at a minimum two carriers will be providing two different end-user services to the same end-user customer, report generation, tracking, testing and closeout will require cooperation between the ILEC and CLEC. In order to avoid finger pointing, well documented, proven processes and complementary OSS capabilities must be carefully developed. Existing OSS capabilities do not address this situation and need modification. Also, need to develop a way to identify POTS/line sharing loops to prevent them from being moved off of copper assignments.		
Austin ILEC Concern # 8 **"No Way To Bill Both Customers On One Loop"** Establish POTS customer with TN, CLEC customer with Ckt ID and cross-reference. May require new USOCs, codes, use of existing logic.	Immediate Work-Around with 3 to 4 weeks to assign new codes if required	Primarily uses existing capabilities, may vary by ILEC- but definitely minor not total re-do
Bell Atlantic Response Austin is correct that additional codes will be required to bill for line sharing. Billing OSS will need to be enhanced to generate bill to CLEC using these codes. Existing BA ADSL billing arrangement does not and can not accommodate CLEC use of loops.		